Case 3244

TERMOPSIDAE Holmgren, 1911, *Termopsis* Heer, 1849 and *Miotermes* Rosen, 1913 (Insecta, Isoptera): proposed conservation of prevailing usage by the designation of *Termopsis bremii* Heer, 1849 as the type species of *Termopsis*

Michael S. Engel

Division of Entomology, Natural History Museum, Snow Hall, 1460 Jayhawk Boulevard, University of Kansas, Lawrence, Kansas 66045–7523, U.S.A.

Kumar Krishna and Christopher Boyko

Division of Invertebrate Zoology, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024–5192, U.S.A.

Abstract. The purpose of this application, under Article 70.2 of the Code, is to conserve the current usage of the generic names *Termopsis* Heer, 1849 and *Miotermes* Rosen, 1913 and the family name TERMOPSIDAE Holmgren, 1911 for well known groups of termites. Both nominal genera have the same type species, *Termopsis procerus* Heer, 1849, and it is proposed that this problem of synonymy be resolved by designation of *Termopsis bremii* Heer, 1849 as the type species of *Termopsis*.

Keywords. Nomenclature; taxonomy; Isoptera; TERMOPSIDAE; *Termopsis*; *Miotermes*; *Termopsis bremii*; *Termopsis procerus*; termites.

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1. Heer (1849, p. 23) named the termite genus *Termopsis* (at that time as a subgenus of *Termes* Linnaeus, 1758) and included five new fossil species, two of which were *Termopsis bremii* Heer, 1849 (p. 31) and *T. procerus* Heer, 1849 (p. 23), in Middle Eocene Baltic amber. Heer did not select any of the five species as the type species of *Termopsis*. Holmgren (1911, p. 35) established the family-group name TERMOPSINAE based on *Termopsis*.

2. Handlirsch (1907, p. 698) designated *Termopsis procerus* Heer, 1849 as the type species of *Termopsis* and was the first author to explicitly designate a type species from one of Heer's originally included five species. Cockerell (1916, p. 138) also claimed to have designated *T. procerus* as the type of *Termopsis*.

3. Banks (in Banks & Snyder, 1920, p. 9) selected *Termopsis insignis* Heer, 1849 as the type species of *Termopsis* but, although he correctly chose one of Heer's original species, his action was not valid since Handlirsch (1907, p. 698) had already designated *T. procerus* as the type species.

4. Hagen (1854, p. 222) included only *Termopsis bremii* Heer in *Termopsis*, transferring four of Heer's original five species to the genus *Hodotermes* Hagen, 1853. Later, Hagen (in Pictet-Baraban & Hagen, 1856, p. 51; 1858a, p. 32 and 1858b, p. 12) again included only *T. bremii* of Heer's original five species in *Termopsis*. Although

Hagen never specifically mentioned *T. bremii* as the type species of *Termopsis*, his elimination of all species except *T. bremii* was interpreted later by Emerson (1933, p. 165) as the fixation of a type species. Article 69.4 states that 'elimination of all but one of the originally included nominal species from a nominal genus or subgenus does not in itself constitute type fixation'. Had Handlirsch (1907) not already designated *T. procerus* Heer, 1849 as the type species of *Termopsis* (and had Banks (1920) not chosen *T. insignis*), Emerson's (1933, p. 165) subsequent acceptance of *T. bremii* as the type species of *Termopsis* would have been valid under Article 69.1.1. This Article states that 'in the absence of a prior type fixation for a nominal genus or subgenus, an author is deemed to have designated one of the originally included nominal species as type species, if he or she states (for whatever reason, right or wrong) that it is the type or type species'.

5. Girard (1879, p. 270) selected *T. angusticollis* Hagen, 1858a as the type species of *Termopsis*. Similarly, Wasmann (1897, p. 149) selected *Termes occidentis* Walker, 1853 as the type species of *Termopsis*. Since neither *T. angusticollis* nor *T. occidentis* was originally included in *Termopsis* by Heer (1849), these designations are invalid under Article 67.2.

6. Rosen (1913, p. 325) described a new termite genus *Miotermes*, with *T. procerus* Heer, 1849 as the type species by original designation and monotypy and transferred the species to the family MASTOTERMITIDAE, a family proposed by Desneux (1904) for the primitive Australian termite *Mastotermes darwiniensis* Froggatt, 1897 (see Opinion 1808, 1995, BZN **52**: 206).

7. However, Snyder (1949, p. 360), in a catalog of the termite species of the world, followed Emerson's (1933) conclusion concerning Hagen's various actions (1854, 1856, 1858a, 1858b) and listed *T. bremii* as the type species of *Termopsis*.

8. All authors since Snyder (1949) have followed the invalid interpretation of Emerson (1933) and have considered *Termopsis* to apply to *T. bremii* and related species. They have employed the family-group name TERMOPSIDAE Holmgren, 1911 (p. 35) for *Termopsis* (sensu current usage) and its relatives in an extensive systematic (e.g., Wilson, 1971; Thorne & Carpenter, 1992; Nel & Paicheler, 1993; Weitschat & Wichard, 1998, 2002; Krishna & Grimaldi, 2000; Thorne, Grimaldi, & Krishna, 2000), biological (Weidner, 1955; Stuart, 1963, 1969; Krishna, 1969; Howse, 1970; Roonwal, 1970; Watson & Gay, 1991; Thorne et al., 1993; Kambhampati & Eggleton, 2000), and agricultural (Harris, 1971; Lee & Wood, 1971; Scheffrahn & Su, 1992; Su & Scheffrahn, 2000) literature.

9. As *T. procerus* is the valid type species of both the genus *Termopsis* Heer, 1849 and the genus *Miotermes* Rosen, 1913, the name *Termopsis* (family TERMOPSIDAE) is formally a senior objective synonym of *Miotermes* (family MASTOTERMITIDAE).

10. Acceptance of this situation would be detrimental to the stability of termite nomenclature as all the species presently included in *Miotermes* would have to be transferred into the genus *Termopsis* and a new name would be needed for the genus that would include the species that had been included in *Termopsis*. The next available name is *Xestotermopsis* Rosen, 1913, a name that is currently considered to be a junior synonym of *Termopsis*. There would also be confusing complications associated with the family names TERMOPSIDAE and MASTOTERMITIDAE, as *Termopsis* is the type genus of TERMOPSIDAE. The name TERMOPSIDAE Holmgren, 1911 would become a junior synonym of MASTOTERMITIDAE Desneux, 1904 and a substitute name

would be needed for the family currently known as TERMOPSIDAE. The name STOLOTERMITINAE Holmgren, 1911 (p. 45) (currently used for a subfamily of TERMOPSIDAE) would be available, but its introduction at family rank would be confusing.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to set aside all previous fixations of type species for the nominal genus *Termopsis* Heer, 1849 and to designate *Termopsis bremii* Heer, 1849 as type species;

(2) to place on the Official List of Generic Names in Zoology the following names:
   (a) *Termopsis* Heer, 1849 (gender: masculine), type species by designation in (1) above *Termopsis bremii* Heer, 1849;
   (b) *Miotermes* Rosen, 1913 (gender: masculine), type species by original designation and monotypy *Termopsis procerus* Heer, 1849;

(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *bremii* Heer, 1849, as published in the binomen *Termopsis bremii* (specific name of the type species of *Termopsis* Heer, 1849);
   (b) *procerus* Heer, 1849, as published in the binomen *Termopsis procerus* (specific name of the type species of *Miotermes* Rosen, 1913);

(4) to place on the Official List of Family-Group Names in Zoology the name TERMOPSIDAE Holmgren, 1911 (type genus *Termopsis* Heer, 1849).

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Termopsis bremii Heer, 1849 in Baltic Amber.